GURLEY

ENGINEERING INSTRUMENTS

Teledyne Gurley instruments have been used since 1845 by generations of engineers and surveyers all over the world and in all extremes of climate and environment. These instruments combine accuracy, durability, and ease and permanence of adjustment with sturdy design and light weight.

Standard features include internal focusing telescopes with coated optics, sealed glass reticle and variable magnification. Transits have multi-groove axle bearings, non-tarnishing circles, and optional optical plummet. Interchangeable parts reduce maintenance costs.

Teledyne Gurley is also sole distributor in the United States for Nikon surveying instruments.

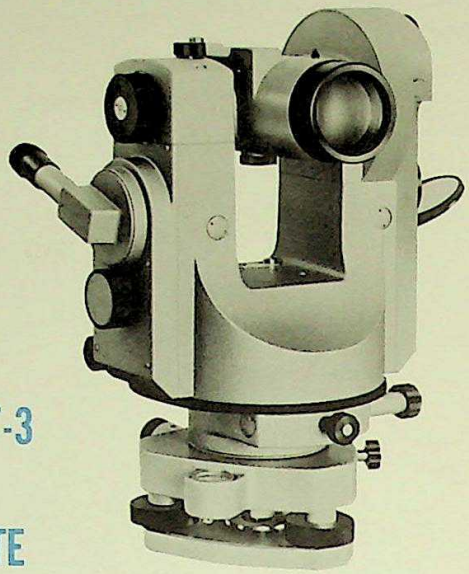
See your Teledyne Gurley Dealer for quality instruments, sales and service. He can assure you prompt service on replacement parts and repairs direct from our factory at Troy, New York.

TELEDYNE GURLEY

514 FULTON STREET / TROY, NEW YORK 12181

(518) 272-6300 / TWX: (710) 443-8156

GURLEY-NIKON MODEL NT-3 DIGITAL THEODOLITE

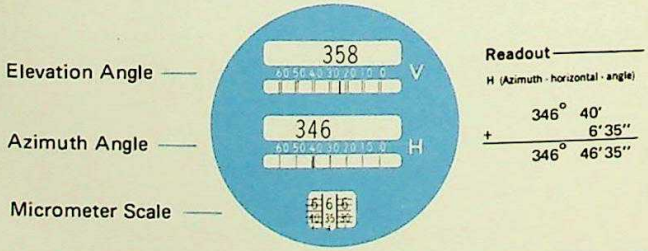


The Model NT-3 has direct digital system for faster, easier readings and fewer errors. Reads both horizontal and vertical circles to 5 seconds of arc. Excellent for all surveying work and accurate angle setting or dividing. Other features include diagonal eyepiece and zenith prism for steep-sighting, and an attachable, internal illuminator for night or underground work. Metal carrying case provided.

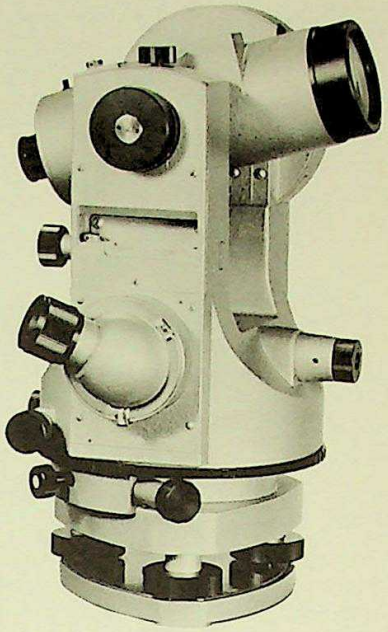
SPECIFICATIONS / NT-3

Telescope —	
Magnification	28x
Length	6.50 in.
Objective diameter	1.57 in.
Minimum focusing distance	6.5 ft.
Horizontal limb diameter	3.3 in.
Vertical limb diameter	3.3 in.
Micrometer increments	5 secs.
Telescope level — Sensitivity	30 secs. per 2 mm.
Plate level — Sensitivity	40 secs. per 2 mm.
Optical plummet magnification	2.2x
Weight of instrument	11.5 lbs.

Tripods: Models HM-12, HM-13



GURLEY-NIKON MODEL NT-2 DIGITAL THEODOLITE

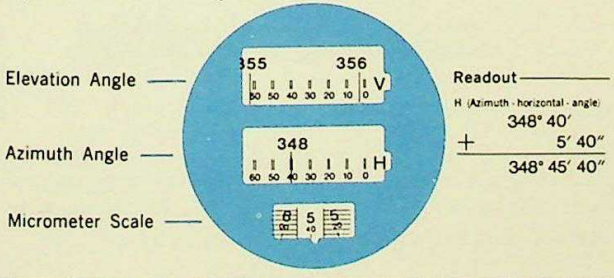


The Model NT-2 theodolite has many of the features incorporated in the NT-3, including direct digital read-out instead of conventional vernier scales. Compact, sturdy and dustproof construction makes this instrument excellent for all surveying needs. Accessories include a trough-type compass and an internal illuminator to make scale numbers, graduation lines, and telescope crosslines stand out during work in dark places. Metal carrying case provided.

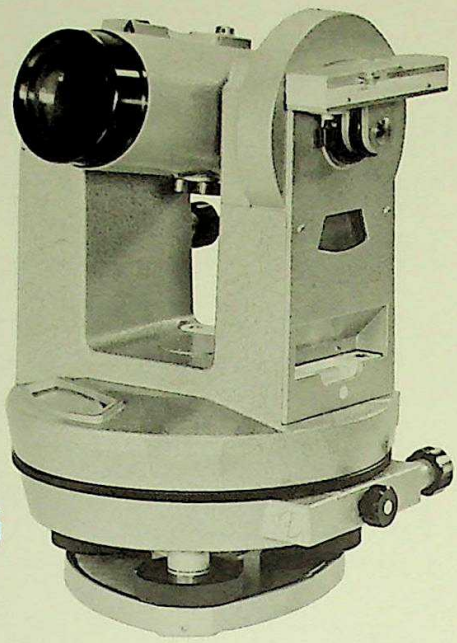
SPECIFICATIONS / NT–2

Telescope —	
Magnification	25x
Length	4.24 ins.
Objective diameter	1.57 ins.
Minimum focusing distance	6 ft.
Horizontal limb diameter	3.3 ins.
Vertical limb diameter	3.3 ins.
Limbs reading numerically to (estimation to 5 secs.)	20 secs.
Telescope level–Sensitivity	40 sec. per 2 mm.
Plate level–Sensitivity	100 sec. per 2 mm.
Optical plummet — Magnification	2.2x
Weight of instrument	11 lbs.

Tripods: Models HM-12, HM-13



GURLEY-NIKON MODEL H-5 TRANSIT



Superior optical and mechanical features of the European theodolite and the American transit are ingeniously combined in the Gurley-Nikon Model H–5 Transit to offer the engineer an excellent instrument for general land surveying, construction, topography and mapping.

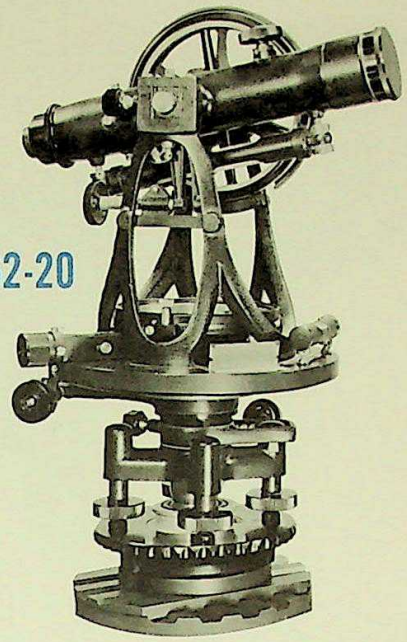
Design is compact and sturdy. Several convenient features add to the usefulness of the Gurley-Nikon Model H–5 Transit, especially an outstanding telescope, dust-proof construction, optical plummet, unique design of the vertical axis, and a compact, metal carrying case. The leveling head is three-screw and the horizontal circle reads by vernier to 20 seconds.

SPECIFICATIONS / H–5

Telescope ––	
Magnification	25x
Length	6-½ ft.
Objective diameter	1.55 in.
Minimum focusing distance	6-½ ft.
Horizontal limb ––	
Diameter	4-¾ in.
Verniers read to	20 sec.
Graduations	figured 0^{o}–350^{o} in both directions
Vertical limb ––	
Diameter	3-1/8 in.
Vernier reads to	1 min.
Telescope level ––	
Sensitivity	40 sec. per 2 mm.
Plate levels ––	
Sensitivity	100 sec. per 2 mm.
Optical Plummet ––	
Magnification	2.2x
Weight of instrument	10 lbs.

Tripods: Use models HM-12 or HM-13

GURLEY MODEL OP 62-20 HELL GATE OPTICAL PLUMMET TRANSIT



The Gurley OP Transit is now the leading model in the Gurley line. This outstanding Transit saves up to one-third set-up time together with increased accuracy with its focusing Optical Plummet and Shifting Head Tripod. You can sight on close or distant targets beneath the instrument. An excellent Transit for general surveying and construction.

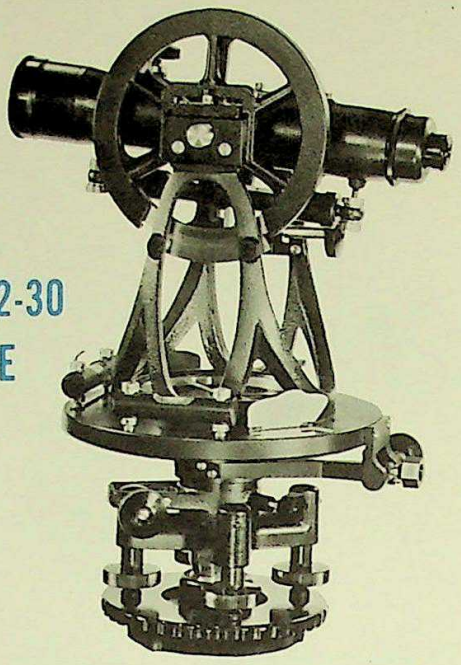
SPECIFICATIONS / OP 62–20

Telescope ––	
Magnification	variable 18x–28x
Length	10-¼ ins.
Objective diameter	1.31 ins.
Minimum focusing distance	5-½ ft.
Horizontal limb ––	
Diameter	6-¼ ins.
Verniers read to	20 sec.
Vertical limb ––	
Diameter	5 ins.
Verniers read to	1 minute
Telescope level –– (Reversion Type)	
Length	6 ins.
Sensitivity	40 sec. per 2 mm.
Plate levels ––	
Length	2.1 ins.
Sensitivity	80 sec.
Optical plummet ––	
Magnification	6x
Focusing	18 ins.–inf.
Weight of instrument	12-1/4 lbs.

Tripods: Use models 442, 477

Note: Model OP 67–20 same as above, but without compass.

GURLEY MODEL 62-30 HELL GATE PRECISE TRANSIT



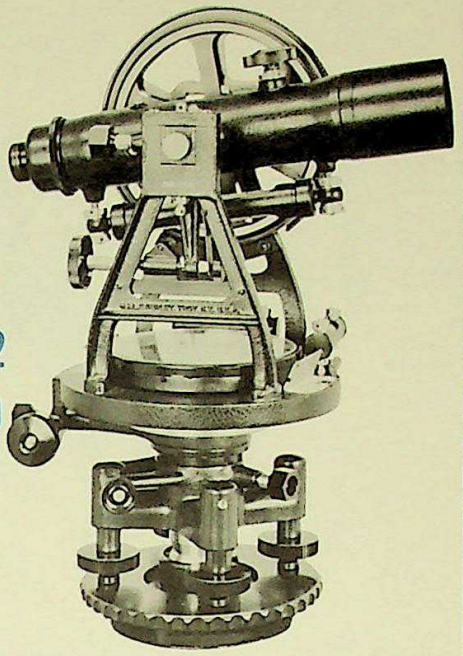
The most popular Gurley Transit for engineering and surveying. Excellent telescope with variable magnification, extra rigid standards. Non-tarnishing circles and moderate weight. This instrument holds its adjustments, and when servicing is required, the cost is moderate. It is also available with 1 min. or 20 sec. graduations.

SPECIFICATIONS / 62–30

Telescope ––	
Magnification	18-28x
Length	10-¼ ins.
Objective diameter	1.31 ins.
Minimum focusing distance	5-½ ft.
Horizontal limb ––	
Diameter	6-¼ ins.
Verniers read to	30 sec.
Graduations	numbered 10 degrees, 0^{o}–350^{o}, in both directions.
Vertical limb ––	
Diameter	5 ins.
Vernier read to	1 minute
Telescope level – (Reversion type)	
Length	6 ins.
Sensitivity	40 sec. per 2 mm.
Plate level ––	
Length	2.1 in.
Sensitivity	80 sec. per 2 mm.
Weight of instrument	11-¼ lbs.

Tripods: Use models 402, and 407, or 422 and 467

GURLEY MODEL 112 STANDARD PRECISE TRANSIT



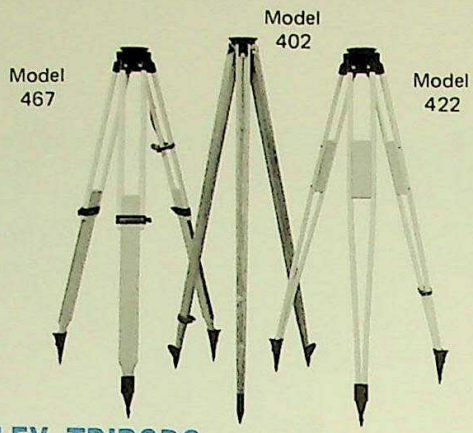
A compact, sturdy Transit, widely used for general engineering, surveying, construction and mining. Has full circular compass, variable magnification telescope and reversion telescope level.

It is also made with Optical Plummet (Model OP-117); Telescopic Solar Unit (Model 112-T).

SPECIFICATIONS / 112

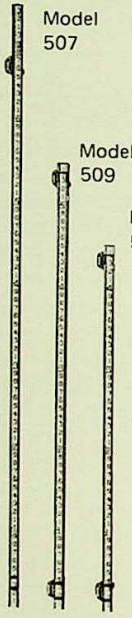
Telescope ––	
Magnification	12x–18x
Length	8-½ in.
Objective diameter	1.16 in.
Minimum focusing distance	5 ft.
Horizontal limb ––	
Diameter	5-1/8 in.
Verniers read to	1 min.
Graduations	figured 0^{o}-350^{o} in both directions
Vertical limb ––	
Diameter	5 in.
Graduations	figured 0^{o}–90^{o} in quadrants.
Vernier reads to	1 min.
Telescope level (Reversion Type) –	
Length	5 in.
Sensitivity	50 sec. per 2 mm.
Plate Levels ––	
Length	2.1 in.
Sensitivity	80 sec. per 2 mm.
Weight of instrument	10-¼ lbs.

Tripods: Use models 402, 407, 422 and 467



GURLEY TRIPODS FOR TRANSITS AND LEVELS

Model	Standard		Wide Frame		Wide Frame Shifting Head		Tribrach Head	
Cat. No.	402	407	422	467	442	477	HM-12	HM-13
Type	Fixed Leg	Ext. Leg	Fixed Leg	Ext. Leg	Fixed Leg	Ext. Leg	Fixed Leg	Ext. Leg
Length	58"	35-57"	59"	36-59"	59"	36-59"	56"	36-57"
Weight	14½ lb.	10½lb.	12 lb.	12 lb.	14 lb.	16½ lb.	8½ lb.	8½ lb.
Threads	3-1/2"– 8		3-1/2"– 8		3-1/2"– 8		5/8" – 11	



GURLEY METAL FACED LEVELING RODS

Constructed to endure years of tough use and to maintain straightness and dimensional stability, Teledyne Gurley leveling rods have recessed, white enameled metal faces with accurate and sharply contrasting graduations and numbers. The housings are selected-grain, kiln dried northeastern maple, finished with light mahogany stain and two coats of catalyzed varnish, each hand rubbed. Non-corrosive hardware and metal end caps add to durability in service.

SPECIFICATIONS

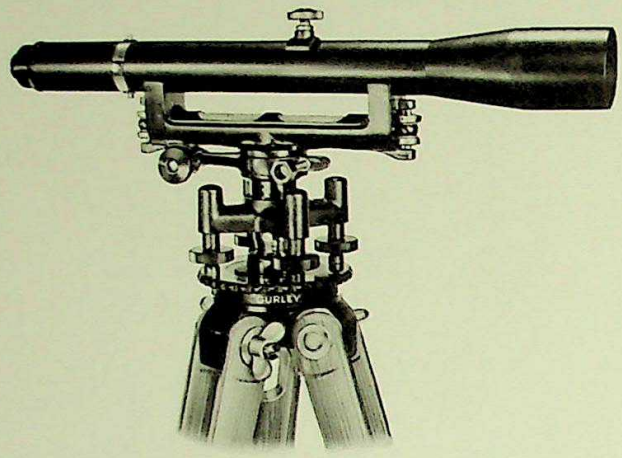
Model	Name	Sections	Length Open	Length Closed
507	Philadelphia	2	13'	7'–4"
508	Frisco	3	12'	4'–6 1/2"
509	Frisco	3	15'	5'–6 1/2"

GURLEY - NIKON MODEL S1 STEREOSCOPE

The Gurley-Nikon Stereoscope employs a pair of low-power (1.3X) magnifiers and a high-power (3X) stereoscopic microscope for three-dimensional observation of a matched pair of aerophotographs with remarkable fidelity and clarity. The height of objects and terrain features can be measured with the parallax measuring bar supplied as standard equipment. The rugged body is diecast to provide years of service, and the instrument folds into a snug, lightweight package that fits in the carrying case for storage. Applications include topography, cartography and aerial surveillance.

SPECIFICATIONS

Maximum area of stereoscopic observation without magnifiers . . . . . 7.09 x 9.45 in.
Distance between center of paired photographs . . . . . 10.24 in.
Magnification and viewfield:
Under basic setup . . . . . 6.30 x 7.09 in.
With swing-in 1.3x magnifiers . . . . . .6.30 in. dia.
With swing-in 3x stereo-microscope . . . . . 2.8 in. dia.
Parallax measuring bar
Range of measurement . . . . . 40 mm.
Increments . . . . . 0.05 mm.
Weight of instrument . . . . . 8.4 lbs.



GURLEY
MODEL 372
ENGINEERS' DUMPY LEVEL

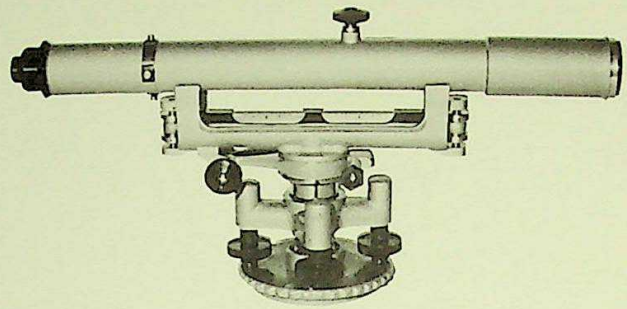
The Gurley Dumpy Level is the favorite for construction work and is also suitable for general high-accuracy leveling. The internal focusing telescope is practically dust and moisture proof. A large objective lens provides the extra light needed with the high magnification provided in levels and is combined with variable magnification. Long spirit level, easily readable; stable balanced design and very sturdy construction without excess weight.

SPECIFICATIONS / 372

Telescope —	
Magnification	variable 26x—41x
Length	18 in.
Objective diameter	1.68 in.
Minimum focusing distance	8 ft.
Level —	
Length	8-½ in.
Sensitivity	25 sec. per 2 mm.
Weight of instrument	10 lbs.

Tripods: Use Models 402, and 407, or 422 and 467

Printed in U.S.A. CR/10M/773



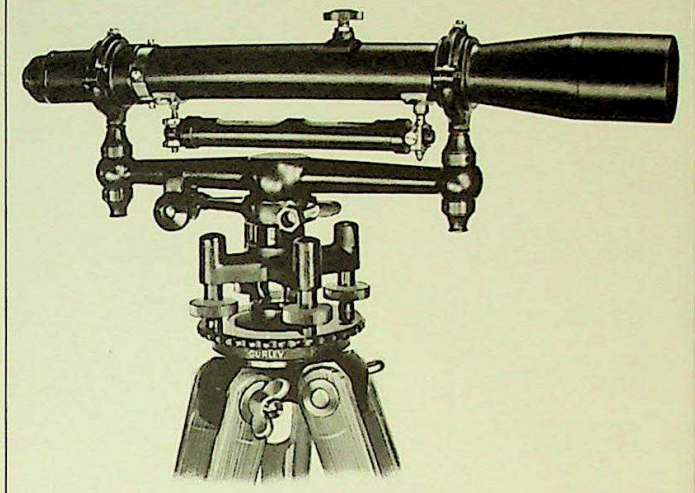
GURLEY
MODEL 372 SF
SHORT FOCUS
ENGINEERS' DUMPY LEVEL

The Teledyne Gurley Short Focus Dumpy Level was designed to facilitate transfer of grade marks in close quarters. This instrument can be focused from 3 1/2" to Infinity. The telescope of the Short Focus Dumpy Level is permanently attached to the bar, at right angles to the axis of the spindle. As there are fewer adjustments, this level is ideally suited for construction work, but it is also suitable for general high-accuracy leveling. The Model 372-SF also has an internal focusing telescope providing practically dust- and moisture-proof operation; a large objective lens to provide adequate light at the magnifications involved; a long, sensitive spirit level; and a stable, balanced and sturdy design.

SPECIFICATIONS / 372-SF

Telescope —	
Magnification	22x
Length	18-1/4 in.
Objective diameter	1.39 in.
Minimum focusing distance	3-1/2 in.
Level —	
Length	8-1/2 in.
Sensitivity	approx. 20 sec. per 2 mm.
Weight of instrument	10 lbs.

Tripods: Use Models 402, 407, 467



GURLEY
MODELS 377 & 375
ENGINEERS' WYE LEVELS

The simplicity of checking adjustments with the Gurley Wye Levels provides confidence with results where accurate leveling is required. Stability, sensitivity and ability to hold adjustments are combined with precision construction in every detail.

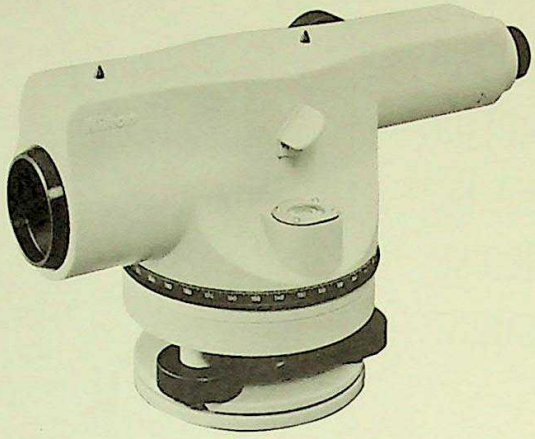
Model 377 is the standard level. Model 375, which is equipped with an extra-sensitive spirit level, is often selected for work where high accuracy is required.

Standard features include dustproof leveling screws, smooth tangent motions and long wearing centers. Each instrument has a mahogany carrying case.

SPECIFICATIONS / 377 & 375

Telescope —	
Magnification	variable 26x—41x
Length	18 in.
Objective diameter	1.68 in.
Minimum focusing distance	8 ft.
Level —	
Length	8-½ in.
Sensitivity:	
Model 377	25 sec. per 2 mm.
Model 375	10-15 sec. per 2 mm.
Weight of instrument	11 lbs.

Tripods: Use Models 402, 407, 422 and 467



GURLEY - NIKON
MODEL AP-2
AUTOMATIC LEVEL

The versatile, highly accurate Model AP-2 maintains the horizontal line of sight with an automatic compensation mirror surrounded by a special metal plate mounted on ball bearings. This compensator is free from "hang-ups" and is inexpensive to replace if required. The easily read horizontal scale is divided to one degree.

Completely dustproof and waterproof, also compact and durable, the Model AP-2 absorbs shock and withstands temperatures from -40°C to +70°C. Suitable for general as well as critical leveling. Metal carrying case.

SPECIFICATIONS / AP-2

Telescope –	
Magnification	20x
Length	9-1/4 in.
Objective diameter	1.2 in.
Minimum focusing distance	5.25 ft.
Telescope level	Automatic
Plate level –	
Type	Circular
Sensitivity	10 min. per 2 mm.
Automatic leveling range	±10 min.
Horizontal circle –	
Divided to	1 deg.
Figured	0°–350°
Weight of instrument	4-1/2 lbs.

Tripods: Use Models HM-12 or HM-13

GURLEY - NIKON
MODEL AE
AUTOMATIC LEVEL

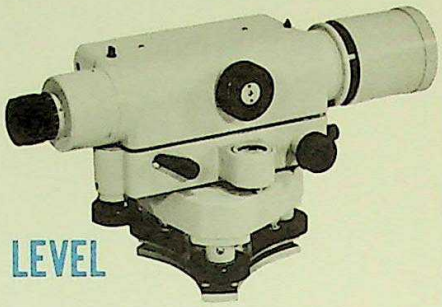
The AE's unique auto compensation system utilizes the principle of triangular suspension to assure a stable line of sight at all times. The fast stopping time of the compensating mirror oscillation results in greatly increased speed of operation, and a friction-type turning mechanism permits smooth transitions from rough to fine movements with no need for clamping. Also available separately is an optical micrometer that permits direct readings down to 0.1 mm. Suitable for every type of surveying work in general civil engineering, architectural surveying and machinery installation as well as many special applications.

SPECIFICATIONS / AE

Telescope –	
Magnification	32x
Length	10.8 in.
Objective diameter	1.57 in.
Minimum focusing distance	8.2 ft.
Circular level sensitivity	6 min. per 2 mm.
Image	erect
Field of view	1 deg. -20 min.
Stadia multiplication constant	100
Stadia added to constant	0
Weight of instrument	5 lbs.

Tripods: Use Models HM-12 or HM-13

GURLEY-NIKON MODEL E-5 ENGINEERS' LEVEL



This instrument is designed for precise leveling in general engineering and construction work.
Sights are made rapidly and with confidence because of the optical bubble coincidence image (controlled by micrometer tilting screw) which is visible within the field of view of the telescope itself, making it unnecessary to shift the eye from the telescope eyepiece at any time. Compact and sturdy design for highest accuracy, performance, and durability.
Level vial protected against sun and breakage. 3-screw leveling base and tribrach base plate — bolt to tripod. Dust- and moisture-proof metal carrying case.

SPECIFICATIONS / E-5

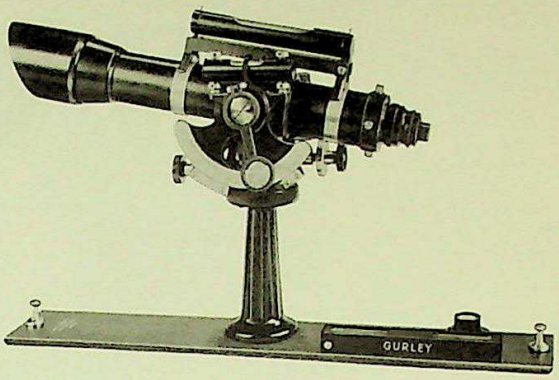
Telescope ——	
Magnification	25x
Length	9-½ in.
Objective diameter	1.55 in.
Minimum focusing distance	6-½ ft.
Telescope level ——	
Sensitivity	30 sec. per 2 mm.
Sensitivity by coincidence image	12 sec. per 2 mm.
Plate level ——	
Type	Circular
Sensitivity	10 min. per 2 mm.
Weight of instrument	5 lbs.

Tripods: Use models HM-12 or HM-13

JOHNSON MODEL 570 & 570A PLANE TABLE TRIPODS

Model 570
Illustrated

The Johnson Plane Table Head consists of two precision cups lapped together and arranged so that the board can be readily leveled and rotated in azimuth. Large wing nuts clamp the board in position. Tripod legs are made of straight-grained hardwood. Entire tripod is strong, rigid and withstands rough use.



STANDARD MODEL 582

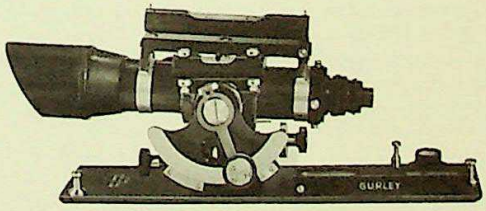
With 4" Needle Trough Compass

GURLEY ALIDADES

For mapping by the Plane Table method, Gurley Alidades offer excellence in optics, together with construction details evolved over years of field use. Light-weight, compact. Beaman Stadia Arc for distance reduction computation. Chrome plated blades, trough compass, striding level, gradienter, telescope rotates to check collimation.

SPECIFICATIONS

	580	582
Telescope ——		
Magnification	13x	17x
Length	8 in.	10-½ in.
Objective diameter	1.5 in.	1.5 in.
Reticle — stadia ratios	1:100 and 1:400	1:100 and 1:400
Vertical arc, radius	2 in.	2 in.
Reading to:	1 min.	1 min.
Beaman Stadia Arc	Yes	Yes
Striding Level ——		
Length	4-½ in.	4-½ in.
Sensitivity	45-50 sec.	45-50 sec.
Control level — sensitivity	60 sec.	60 sec.
Compass, trough, length	4 in.	4 in.
Blade, length	15 x 3-¼ in.	11-½ x 3-¼ in.
Weight of instrument	4-¾ lbs.	5-½ lbs.



EXPLORER'S MODEL 580

Used by geologists and topographers in making exploration surveys. Excellent for topographic mapping where compactness and portability are essential.